

Comments submitted by:

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*Requesting clarification/correction to 47 CFR 90.248, 90.249 with regard to wildlife telemetry provisions*

The Ornithological Council represents 10 scientific societies of biologists who study birds (ornithologists). Often, they use radio telemetry in their research. Those who are nongovernment employees have no frequency assignment that is both legal and suitable.

As the FCC rules currently stand, they cannot use any of the frequencies available for wildlife telemetry.

Within Part 90 is FCC rule 90.248, "Wildlife and ocean buoy tracking" which reads, in pertinent part:

"(a) The frequency bands 40.66-40.70 MHz and 216-220 MHz may be used for the tracking of, and the telemetry of scientific data from, ocean buoys and animal wildlife."

The frequency bands stated in 90.248(a) constitute the only spectrum explicitly allocated by the FCC for animal tracking and telemetry by nongovernmental entities. Unless the FCC has authorized a researcher to use other frequencies on an individualized, experimental basis, the researcher's telemetry must be limited to the 40 MHz or 216 MHz bands.

Telemetry vendors are unanimous in saying that the 40 MHz band is not suitable for avian telemetry. This band, in the low VHF spectrum, has a relatively long wavelength. Radio frequency components for this band are usually of a physical size that makes them unsuitable for avian use.

The other provision – for use of 216-220 - is the one we seek to have clarified or corrected.

One provision says that this frequency cannot be used for airborne applications if the transmitter exceeds one milliwatt of power. The other provision [90.259(c)(3)] flatly prohibits airborne use, regardless of power. As all or nearly all transmitters used for avian radio tracking emit substantially less than 1 milliwatt, a clarification from the FCC will solve our dilemma.

Exact language of contradictory provisions (sorry, I don't have access to the 2002 version, which is not yet on the GPO access website, so the section number doesn't match what I've cited above. I've bolded and italicized the relevant language):

TITLE 47--TELECOMMUNICATION

CHAPTER I--FEDERAL COMMUNICATIONS  
COMMISSION (CONTINUED)

PART 90--PRIVATE LAND MOBILE RADIO SERVICES--Table of Contents

Subpart J--Non-Voice and Other Specialized Operations

Sec. 90.248 Wildlife and ocean buoy tracking.

(a) The frequency bands 40.66-40.70 MHz and 216-220 MHz may be used for the tracking of, and the telemetry of scientific data from, ocean buoys and animal wildlife.

(b) Transmitters operating under the provisions of this section are not subject to the technical standards contained in Secs. 90.205-90.217.

In lieu thereof, the transmitters shall comply with the provisions in this section.

(c) Classes of emission are limited to N0N, A1A, A2A, A2B, F1B, J2B, F2A, F2B, and/or F8E.

(d) The authorized bandwidth shall not exceed 1 kHz.

(e) Frequency stability. (1) For transmitters operating in the 40.66-40.70 MHz frequency band, the frequency stability shall be sufficient to ensure that, at the carrier frequency employed, the sum of the authorized bandwidth plus

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the bandwidth required for frequency stability are confined within this band.

(2) In the 216-220 MHz frequency band, transmitters shall employ a minimum frequency stability of 0.005 percent (50 parts per million).

The carrier frequency shall be selected to ensure that the sum of the authorized bandwidth plus the bandwidth required for frequency stability are confined within this band.

(3) The frequency stability standards shall be met over a temperature range of -30 deg. to +50 deg. centigrade at normal supply voltage and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of +20 deg. C. For battery operated equipment, the equipment tests shall be performed using a new battery.

*(f) The maximum peak transmitter output (carrier) power shall not*

**exceed 1 milliwatt for airborne wildlife applications, 10 milliwatts for terrestrial wildlife applications or 100 milliwatts for ocean buoys.**

(g) Emissions appearing outside of the authorized bandwidth shall be attenuated below the carrier power by at least 26 dB, following the procedures specified in Sec. 90.210(m).

## TITLE 47--TELECOMMUNICATION

### CHAPTER I--FEDERAL COMMUNICATIONS COMMISSION (CONTINUED)

#### PART 90--PRIVATE LAND MOBILE RADIO SERVICES--Table of Contents

##### Subpart K--Standards for Special Frequencies or Frequency Bands

Sec. 90.259 ***Assignment and use of frequencies in the bands 216-220 MHz and 1427-1435 MHz.***

Frequencies in the bands 216-220 MHz and 1427-1435 MHz may be assigned to applicants under this part provided the bands are listed in the individual radio service under which they establish eligibility. Use of these bands is limited to telemetering purposes, except that the 216-220 MHz band may also be used for wildlife and ocean buoy tracking operations pursuant to Sec. 90.248. All operation is secondary to Federal Government operations, and operation in the 216-220 MHz band is also secondary to the maritime mobile service and operation in the 1427- 1429 MHz band is also secondary to the space operation service (earth-to-space). Base stations authorized in these bands shall be used to perform telecommand functions with associated mobile telemetering stations. Base stations may also command actions by the vehicle itself, but will not be authorized solely to perform this function. ***Airborne use will not be authorized.*** Each application will be coordinated with the Federal Government by the Federal Communications Commission and is subject to such technical and operational limitations as may be imposed by the government. Each application should include precise information concerning emission characteristics, transmitter frequency deviation, output power, type and directional characteristics, if any, of the antenna, and the minimum necessary hours of operation.